

MANUFACTURING EXTENSION PARTNERSHIP

Success Stories from the Field

Rock-Tenn Company

GENEDGE ALLIANCE

Lean Six Sigma's Tools Enhance Seven Hills Paperboard's Production

Client Profile:

Founded in 1929 by the Mead Corporation as a pulping operation, the Seven Hills Paperboard facility manufactures paper sheathing for gypsum board (wallboard) from recycled paper products. The company's Lynchburg, Virginia facility currently employs 84 people. Seven Hills Paperboard, a joint venture formed in February, 2000, is owned by Rock-Tenn Company and Lafarge Corporation. Rock-Tenn Company is one of the leading manufacturers of packaging products, merchandising displays and recycled paperboard with manufacturing facilities throughout the U.S., Canada, Mexico and Chile. Lafarge Corporation is a multinational manufacturer of concrete, cement, aggregates, roofing tile and gypsum wallboard.

Situation:

During the period from January 2005 to June 2006, the basis weight or paper density had shifted on Seven Hills Paperboard's Cream Face production line from 41 pounds per 1,000 square feet to 42 pounds. A corresponding trend had been noted on the Greyback production line as well. Tensile rejects had increased from zero to 160 tons. Operators were reacting to the lower tensile results by increasing the basis weight and adding long fiber to the feed. Strategic goals for Seven Hills Paperboard included the capability to produce both the Cream Face and Greyback products using 38 pounds per 1,000 square feet while maintaining the desired tensile strength. Seven Hills Paperboard contacted GENEDGE ALLIANCE, formerly Virginia's A.L. Philpott Manufacturing Extension Partnership (VPMEP), a NIST MEP network affiliate, for help.

Solution:

Using the Lean Six Sigma DMAIC process, GENEDGE ALLIANCE's Laura Rathburn partnered with Seven Hills Paperboard's Scott Palmer to leave a project team whose end focus was to reduce basis weight. The project team selected only those tools necessary to define, measure, analyze, improve and control how the company manufactures its product and ultimately serves its customer. Eight separate Kaizen Design of Experiments (KDOE) were conducted to identify major interactions of the pulping process as they related to machine direction tensile strength. Manufacturing centerlines were established for each of the critical process variables based on the knowledge gained through the experiments. Additionally, a process control plan was developed and corresponding Standard Operating Procedures were drafted. Knowledge gained resulted in overall process improvements within the facility.

Results:

* Anticipated sales increase of \$1.8 million.

Testimonial:

www.mep.nist.gov



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"Everything about the project exceeded my expectations. Not only did we get the results we were looking for, but more satisfying to me was the enthusiasm and interest shown by the team members throughout the course of the project. Their willingness to learn a new way of doing things and accept the results was key to implementing the needed changes."

Ed Melton, General Manager